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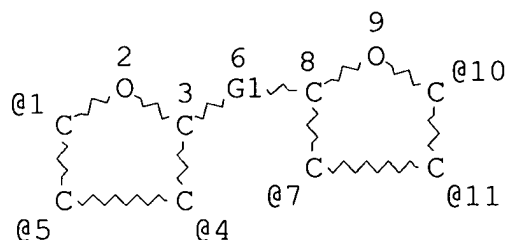
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=> fil hca

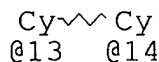
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=> d que stat

L8 SCR 1842  
 L10 SCR 72  
 L12 STR



Cy @12



Cy @15

VAR G1=CY/13-3 14-8  
 VPA 12-10/11/7 U  
 VPA 15-4/5/1 U  
 NODE ATTRIBUTES:  
 DEFAULT MLEVEL IS ATOM  
 DEFAULT ECLEVEL IS LIMITED

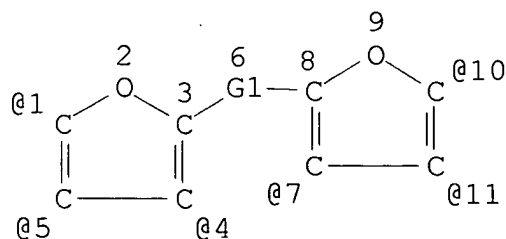
GRAPH ATTRIBUTES:

RSPEC I

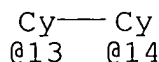
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STEREO ATTRIBUTES: NONE

L14 148 SEA FILE=REGISTRY SSS FUL L12 AND L8 AND L10  
 L17 STR



Cy @12



Cy @15

VAR G1=CY/13-3 14-8

VPA 12-10/11/7 U

VPA 15-4/5/1 U

NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 15

STEREO ATTRIBUTES: NONE

L19 113 SEA FILE=REGISTRY SUB=L14 SSS FUL L17

L20 45 SEA FILE=HCA ABB=ON PLU=ON L19

L23 10 SEA FILE=HCA ABB=ON PLU=ON L20 AND (EL OR ?LUMINES? OR  
HOLE? (3A) TRANSPORT?)

=> d all hitstr 1-10

L23 ANSWER 1 OF 10 HCA COPYRIGHT 2004 ACS on STN

AN 141:268179 HCA

ED Entered STN: 07 Oct 2004

TI Long-life white-emitting organic **electroluminescent**  
devices, displays, illumination apparatus, and electric appliances  
therewith

IN Fukuda, Mitsuhiro; Genda, Kazuo

PA Konica Minolta Holdings, Inc., Japan

SO Jpn. Kokai Tokkyo Koho, 577 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM H05B033-14

ICS C09K011-06; G02F001-1335; H05B033-22

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related  
Properties)

Section cross-reference(s): 25, 28, 29, 38, 74

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	JP 2004253298	A2	20040909	JP 2003-43860	20030221

PRAI JP 2003-43860

20030221

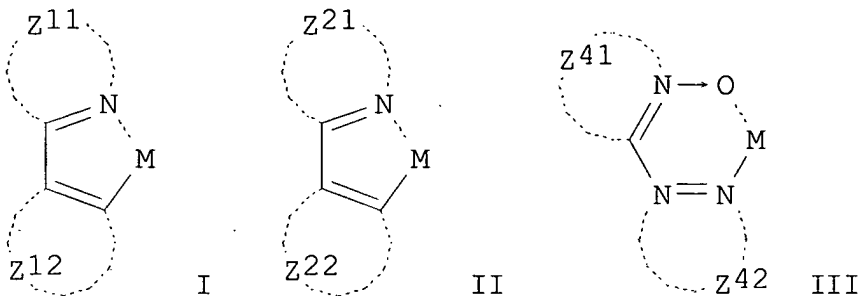
CLASS

PATENT NO. CLASS PATENT FAMILY CLASSIFICATION CODES

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JP 2004253298	ICM	H05B033-14
	ICS	C09K011-06; G02F001-1335; H05B033-22
JP 2004253298	FTERM	2H091/FA44X; 2H091/FA44Z; 2H091/FB02; 2H091/FC02; 2H091/FC12; 2H091/FC22; 2H091/FC24; 2H091/GA01; 2H091/GA02; 2H091/LA30; 3K007/AB02; 3K007/AB03; 3K007/AB04; 3K007/AB11; 3K007/DB03; 3K007/FA01

OS MARPAT 141:268179  
GI



AB The devices have, in their constituent layers (e.g., emitting layers, **hole-** or **electron-transporting** layers),  
(i) compds. represented by  $X1R1C:CR2X2$  [ $X1, X2$  = aryl, heterocycle;  $R1, R2$  = aryl, heterocyclic hydrocarbyl, cycloalkoxy ( $R1 = R2$  = aryl)],  $R11R12R13R14R15P$  ( $R11-R15$  = monovalent substituent),  $Ar2Ar1C6H4(m-Ar1Ar2)$  [ $Ar1$  = bivalent aromatic hydrocarbylene;  $Ar2$  = (substituted) Ph; H atom on the benzene ring may be substituted with (cyclo)alkyl, alkoxy, or halo],  $Z(ArQ)n$  [ $Q$  = (substituted) o-(2-pyridyl)phenyl;  $Z$  = n-valent bridging group, single bond;  $Ar$  = bivalent arylene;  $n = 2-8$ ], etc., (ii) fluorescent compds. with mol. weight 500-2000 and atomic ratio  $F/(F + H)$  0-0.9 and having fluorescent peak at  $\leq 415$  nm, (iii) polysilanes  $(R21R22Si)_n$  [ $R21, R22$  = alkyl(oxy), aromatic group, aryloxy;  $n1 \geq 3$ ] or  $[R31(Ar31NR32R33)Si]_n$  [ $R31$  = alkyl(oxy), aromatic group, aryloxy;  $R32, R33$  = alkyl, aromatic group;  $Ar31$  = arylene;  $n2 \geq 3$ ], and/or (iv) fluorescent compds. satisfying atomic ratio  $N/C$  0-0.05. The devices, having phosphorescent dopants I ( $Z11$  = aromatic azacycle;  $Z12$  = nonarom. ring, 5-membered aromatic ring, azulene;  $M$  = metal), II ( $Z21, Z22$  = aromatic azacycle;  $M$  = metal), or III ( $Z41$  = azacycle;  $Z42$  = ring;  $M$  = metal) in emitting layers, are also claimed. The devices exhibit high **luminescent** efficiency and substantially white emission, and are suited for light source uses, especially of LCD.

ST white emitting **electroluminescent** life **luminescent** efficiency; phosphorescent azacyclic dopant **luminescent** efficiency org LED; LCD light source white emitting electrophosphorescent

IT **Luminescent** substances  
 (**electroluminescent**, electrophosphorescent, host-guest; long-life white-emitting organic LED containing azacyclic phosphorescent dopants and showing high **luminescent** efficiency)

IT Phosphorescent substances  
 (electrophosphorescent; long-life white-emitting organic LED containing azacyclic phosphorescent dopants and showing high **luminescent** efficiency)

IT Fluorescent substances  
 (fluorine- or nitrogen-containing; long-life white-emitting organic LED containing azacyclic phosphorescent dopants and showing high **luminescent** efficiency)

IT Liquid crystal displays  
 (light sources for; long-life white-emitting organic LED containing azacyclic phosphorescent dopants and showing high **luminescent** efficiency)

IT Electric apparatus  
 (long-life white-emitting organic LED containing azacyclic phosphorescent dopants and showing high **luminescent** efficiency)

IT Organometallic compounds  
 Polysilanes  
 (long-life white-emitting organic LED containing azacyclic phosphorescent dopants and showing high **luminescent** efficiency)

IT **Electroluminescent** devices  
 (white-emitting, electrophosphorescent; long-life white-emitting organic LED containing azacyclic phosphorescent dopants and showing high **luminescent** efficiency)

IT 71-43-2, Benzene, uses 159-68-2, 9,9'-Spirobi[9H-9-silafluorene]  
 346-02-1 752-28-3 1423-70-7 17742-49-3 18822-13-4  
 20156-53-0 32314-41-3 33861-11-9 35088-77-8 38186-32-2  
 54765-15-0 65181-79-5 122107-04-4 133942-93-5 139376-06-0  
 142289-08-5 203070-80-8 213621-16-0 219917-71-2 288581-17-9  
 300823-56-7 300823-57-8 301300-11-8 332350-53-5 405171-49-5  
 405171-87-1 405172-39-6 453590-51-7 478262-73-6 478262-74-7  
 478262-76-9 478262-77-0 478262-78-1 **478262-79-2**  
 478370-42-2 492446-94-3 492446-97-6 497097-34-4 497097-36-6  
 511270-11-4 522630-08-6 522630-12-2 522630-19-9 522630-30-4  
 522630-34-8 522630-36-0 557787-50-5 557787-51-6 557787-53-8

557787-54-9	557787-56-1	557787-57-2	557787-58-3	557787-59-4
564483-87-0	567625-72-3	567625-73-4	567625-75-6	567625-78-9
567625-80-3	569674-85-7	569674-87-9	569674-89-1	569674-90-4
569674-92-6	569674-94-8	569674-95-9	569674-96-0	583040-29-3
583040-30-6	583040-31-7	583040-32-8	583040-34-0	583040-40-8
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606142-48-7	606142-49-8	606142-50-1	606142-51-2	606142-52-3
606142-55-6	606142-58-9	606142-59-0	606142-60-3	606142-61-4
608145-70-6	608145-80-8	608145-85-3	620630-42-4	620630-43-5
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620630-67-3	640773-62-2	640773-65-5	640773-68-8	643029-54-3
643029-58-7	643029-59-8	643029-60-1	643029-61-2	643029-63-4
643753-82-6	643758-09-2	643758-10-5	643758-15-0	644973-61-5
644973-63-7	644973-65-9	644973-67-1	645399-24-2	645399-25-3
645399-27-5	645399-33-3	645399-37-7	650606-83-0	650606-86-3
650606-88-5	650606-89-6	650606-91-0	650606-97-6	655236-05-8
655236-07-0	655236-12-7	655240-48-5	655240-49-6	663219-23-6
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666839-81-2	666839-86-7	666839-89-0	666839-92-5	669072-36-0
669072-52-0	669072-60-0	669072-72-4	676553-38-1	688315-81-3
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705942-24-1	705973-76-8	705973-79-1	705973-80-4	705973-82-6
722547-84-4	722547-85-5	722547-86-6	722547-87-7	722547-88-8
722547-89-9	754231-79-3	754231-80-6	754231-82-8	754231-83-9
754231-84-0	754231-87-3	754231-88-4	754231-89-5	754231-90-8
754231-91-9	754231-92-0	754231-94-2		

(long-life white-emitting organic LED containing azacyclic phosphorescent dopants and showing high **luminescent** efficiency)

IT 5660-43-5P	51445-93-3P	115533-27-2P	174291-37-3P
288297-90-5P	344564-96-1P	522630-06-4P	522630-07-5P
557787-52-7P	567625-71-2P	567625-76-7P	567625-77-8P
569674-88-0P	569674-97-1P	643753-84-8P	669072-95-1P
676553-36-9P	705941-83-9P	754231-93-1P	754231-95-3P
754232-01-4P	754980-36-4P		

(long-life white-emitting organic LED containing azacyclic phosphorescent dopants and showing high **luminescent** efficiency)

IT 604-53-5P,	1,1'-Binaphthalene	5122-94-1P	16761-23-2P
19264-73-4P	33170-68-2P	49610-33-5P	50668-21-8P,
3-Iodo-9-ethylcarbazole	77547-84-3P	85137-69-5P	103989-84-0P
121073-89-0P	146232-42-0P	155886-75-2P	155886-83-2P
263164-82-5P	288297-93-8P	288297-94-9P	288297-95-0P
357437-74-2P	363607-69-6P	522630-41-7P	522630-42-8P

567625-82-5P 567625-83-6P 643753-87-1P 643753-91-7P  
754232-02-5P

(long-life white-emitting organic LED containing azacyclic  
phosphorescent dopants and showing high **luminescent**  
efficiency)

IT 62-53-3, Aniline, reactions 67-64-1, Acetone, reactions 76-86-8,  
Triphenylchlorosilane 86-74-8, Carbazole 90-11-9,  
1-Bromonaphthalene 90-90-4, 4-Bromobenzophenone 92-66-0,  
4-Bromobiphenyl 95-54-5, 1,2-Phenylenediamine, reactions  
98-80-6, Phenylboronic acid 99-97-8, N,N-Dimethyl-p-tolylamine  
100-20-9, Terephthaloyl dichloride 106-37-6, 1,4-Dibromobenzene  
106-38-7, 4-Bromotoluene 108-36-1, 1,3-Dibromobenzene 108-94-1,  
Cyclohexanone, reactions 108-98-5, Thiophenol, reactions  
110-13-4, 2,5-Hexanedione 119-61-9, Benzophenone, reactions  
119-93-7 121-43-7, Trimethoxyborane 132-32-1,  
3-Amino-9-ethylcarbazole 302-01-2, Hydrazine, reactions  
495-71-6, 1,2-Dibenzoylthane 523-27-3, 9,10-Dibromoanthracene  
583-53-9, 1,2-Dibromobenzene 619-42-1, Methyl 4-bromobenzoate  
623-27-8, 1,4-Diformylbenzene 624-92-0, Dimethyl disulfide  
626-19-7, 1,3-Benzenedicarboxaldehyde 762-04-9, Diethyl phosphite  
826-81-3, 2-Methyl-8-quinolinol 885-39-2 931-50-0,  
Cyclohexylmagnesium bromide 1003-09-4, 2-Bromothiophene  
1074-24-4, 2,5-Dibromo-p-xylene 1592-95-6, 3-BromoCarbazole  
1730-04-7, 1,8-Diiodonaphthalene 1733-63-7 2586-62-1,  
1-Bromo-2-methylnaphthalene 2592-73-6, 1,1-Dibromo-2,2-  
diphenylethylene 4546-04-7 6999-03-7, 1-Bromo-4-  
trimethylsilylbenzene 10489-97-1, 1,1-Dibromocyclohexane  
38218-24-5, Indium isopropoxide 51044-13-4, 4-  
Bromobenzyltriphenylphosphonium bromide 65810-18-6,  
1,3,5-Cycloheptatriene-1-carboxaldehyde 95902-10-6,  
3-Bromobenzyltriphenylphosphonium bromide 643753-90-6  
754232-00-3

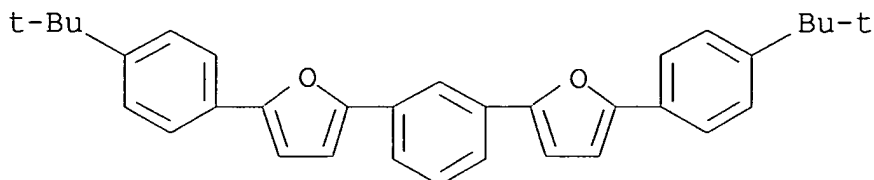
(long-life white-emitting organic LED containing azacyclic  
phosphorescent dopants and showing high **luminescent**  
efficiency)

IT 478262-79-2

(long-life white-emitting organic LED containing azacyclic  
phosphorescent dopants and showing high **luminescent**  
efficiency)

RN 478262-79-2 HCA

CN Furan, 2,2'-(1,3-phenylene)bis[5-[4-(1,1-dimethylethyl)phenyl]-  
(9CI) (CA INDEX NAME)



L23 ANSWER 2 OF 10 HCA COPYRIGHT 2004 ACS on STN  
 AN 140:261159 HCA  
 ED Entered STN: 08 Apr 2004  
 TI Furan-containing compounds as **hole transporters**  
 for organic **electroluminescent** devices  
 IN Ru, Tien-yo; Tsan, Ling-tsi; Li, Chin-hua; Wu, Chun-chi; Chen,  
 Chei-wei  
 PA Academia Sinica, Taiwan  
 SO Jpn. Kokai Tokkyo Koho, 15 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 IC ICM C07D307-40  
 ICS H05B033-14; H05B033-22  
 CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related  
 Properties)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2004075685	A2	20040311	JP 2003-285764	20030804
	US 2004131883	A1	20040708	US 2003-643041	20030818
PRAI	US 2002-404090P	P	20020816		

*application*

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 2004075685	ICM	C07D307-40
	ICS	H05B033-14; H05B033-22
JP 2004075685	FTERM	3K007/AB02; 3K007/AB03; 3K007/DB03; 3K007/FA01; 4C037/HA04

OS MARPAT 140:261159

AB The compds. are R2BA(R1)ArA(R1)BR2 [Ar = (hetero)arylene,  
 oligoarylene; A = furylene; B = (hetero)aryl; R1 = H, alkenyl,  
 alkynyl, (hetero)aryl, (hetero)cyclyl, oligoaryl; R2 = H, alkyl,

alkenyl, alkynyl, (hetero)aryl, (hetero)cyclyl].

ST furan hole transporter org  
electroluminescent device; phenylfurylbenzene hole  
transporter org electroluminescent device

IT Electroluminescent devices  
(furan-containing compds. as hole transporters  
for organic electroluminescent devices)

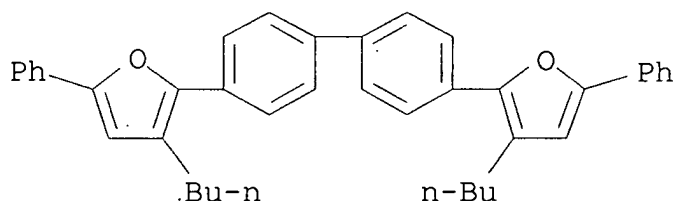
IT 282096-59-7P 492436-14-3P 492436-15-4P  
(furan-containing compds. as hole transporters  
for organic electroluminescent devices)

IT 66-98-8, [1,1'-Biphenyl]-4,4'-dicarboxaldehyde 623-27-8,  
Terephthalaldehyde 282096-36-0 359404-08-3  
(furan-containing compds. as hole transporters  
for organic electroluminescent devices)

IT 282096-59-7P 492436-14-3P 492436-15-4P  
(furan-containing compds. as hole transporters  
for organic electroluminescent devices)

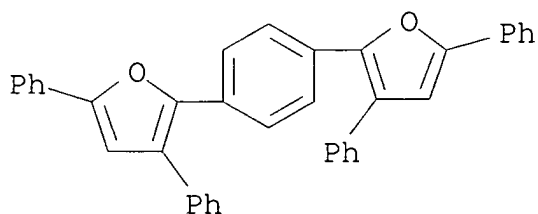
RN 282096-59-7 HCA

CN Furan, 2,2'-[1,1'-biphenyl]-4,4'-diylbis[3-butyl-5-phenyl- (9CI)  
(CA INDEX NAME)



RN 492436-14-3 HCA

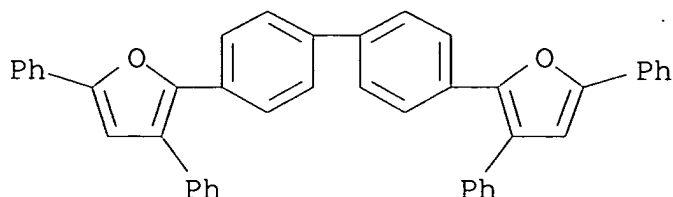
CN Furan, 2,2'-(1,4-phenylene)bis[3,5-diphenyl- (9CI) (CA INDEX NAME)



RN 492436-15-4 HCA

CN Furan, 2,2'-[1,1'-biphenyl]-4,4'-diylbis[3,5-diphenyl- (9CI) (CA  
INDEX NAME)





L23 ANSWER 3 OF 10 HCA COPYRIGHT 2004 ACS on STN  
 AN 139:76033 HCA  
 ED Entered STN: 24 Jul 2003  
 TI **Hole-transport** properties of a furan-containing  
 oligoaryl  
 AU Wu, Chung-Chih; Hung, Wen-Yi; Liu, Tsung-Li; Zhang, Ling-Zhi; Luh,  
 Tien-Yau  
 CS Graduate Institute of Electro-Optical Engineering and Graduate  
 Institute of Electronics Engineering, Department of Electrical  
 Engineering, National Taiwan University, Taipei, 10617, Taiwan  
 SO Journal of Applied Physics (2003), 93(9), 5465-5471  
 CODEN: JAPIAU; ISSN: 0021-8979  
 PB American Institute of Physics  
 DT Journal  
 LA English  
 CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related  
 Properties)  
 Section cross-reference(s): 76  
 AB We report the carrier transport properties of a furan-containing  
 oligoaryl PF6, which contains no arylamine moiety in the mol.  
 structure but exhibits competitive **hole-transport**  
 capability in comparison with conventional arylamine-based  
**hole-transport** materials often used in organic  
 light-emitting devices (OLEDs) and xerog. Thin films of this compound  
 exhibit both morphol. stability and appropriate energy levels for  
 OLED applications. OLEDs using PF6 as the **hole-**  
**transport** layer show low turn-on voltage, high efficiency,  
 and high brightness competitive with those using conventional  
**hole-transport** materials, strongly indicating  
 superior **hole-transport** properties of PF6. The  
 carrier mobility of PF6 was directly measured by the time-of-flight  
 transient photocurrent technique under various temps. and elec.  
 fields. Nondispersive **hole transport** was observed  
 and a room-temperature hole mobility in excess of  $10^{-3}$  cm<sup>2</sup>/V s was  
 obtained under high fields. The field and temperature dependence of  
 hole  
 mobility were analyzed and were found consistent with the Bassler  
 (disorder) formalism.

ST furan oligoaryl hole transport LED  
IT Electric current-potential relationship  
Electroluminescent devices  
Electron affinity  
Electron transport  
Glass substrates  
Hole (electron)  
Hole mobility  
Ionization potential  
Luminescence  
UV and visible spectra  
Vapor deposition process  
(hole-transport properties of a furan-containing oligoaryl)  
IT Photocurrent  
(transient; hole-transport properties of a furan-containing oligoaryl)  
IT 50851-57-5  
(dopant; hole-transport properties of a furan-containing oligoaryl)  
IT 2085-33-8, Alq3 50926-11-9, ITO 126213-51-2, Poly(3,4-ethylenedioxythiophene)  
(hole-transport properties of a furan-containing oligoaryl)  
IT 492436-15-4  
(hole-transport properties of a furan-containing oligoaryl)  
RE.CNT 56 THERE ARE 56 CITED REFERENCES AVAILABLE FOR THIS RECORD  
RE  
(1) Adachi, C; Appl Phys Lett 1990, V57, P531 HCA  
(2) Adachi, C; Appl Phys Lett 1995, V66, P2679 HCA  
(3) Bassler, H; Int J Mod Phys 1994, V8, P847  
(4) Bassler, H; Philos Mag B 1992, V65, P795  
(5) Bassler, H; Phys Status Solidi B 1993, V15, P175  
(6) Borsenberger, P; J Chem Phys 1991, V94, P5447 HCA  
(7) Borsenberger, P; Jpn J Appl Phys, Part 1 1996, V35, P2698 HCA  
(8) Borsenberger, P; Organic Photoreceptors for Imaging Systems 1993  
(9) Brantly, T; US 3567450 1971 HCA  
(10) Burroughes, J; Nature (London) 1990, V347, P539 HCA  
(11) Chen, B; Appl Phys Lett 1999, V75, P4010 HCA  
(12) Chen, C; Appl Phys Lett 2002, V81, P1570 HCA  
(13) Chen, C; Macromol Symp 1997, V125, P1  
(14) de Mello, J; Adv Mater 1997, V9, P230 HCA  
(15) Elschner, A; Synth Met 2000, V111, P139  
(16) Facci, J; Phys Rev B 1986, V54, P1 HCA  
(17) Frenkel, J; Phys Rev 1938, V54, P647  
(18) Garbuzov, D; J Appl Phys 1996, V80, P4644 HCA  
(19) Gill, W; J Appl Phys 1972, V43, P5033

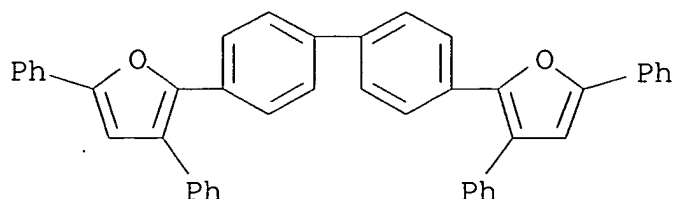
- (20) Hung, L; Appl Phys Lett 1997, V70, P152 HCA
- (21) Ishii, H; Adv Mater 1999, V11, P605 HCA
- (22) Kawate, K; Proc SPIE 1994, V2174, P200 HCA
- (23) Kido, J; Appl Phys Lett 1998, V73, P2866 HCA
- (24) Kijima, Y; Jpn J Appl Phys, Part 1 1999, V38, P5274 HCA
- (25) Kirihata, H; Rev Sci Instrum 1981, V52, P68 HCA
- (26) Klupfel, K; US 3180730 1965 HCA
- (27) Lee, C; J Am Chem Soc 2000, V122, P4992 HCA
- (28) Lee, S; Appl Phys Lett 1999, V74, P670 HCA
- (29) Lin, L; Appl Phys Lett 1996, V69, P3495 HCA
- (30) Lin, L; J Chem Phys 1996, V105, P8490 HCA
- (31) Malliaras, G; Appl Phys Lett 2001, V79, P2582 HCA
- (32) Mason, M; J Appl Phys 1999, V86, P1688 HCA
- (33) Mattoussi, H; J Appl Phys 1999, V86, P2642 HCA
- (34) Murata, H; Chem Phys Lett 2001, V339, P161 HCA
- (35) Okutsu, S; IEEE Trans Electron Devices 1997, V44, P1302 HCA
- (36) O'Brien, D; Adv Mater 1998, V10, P1108 HCA
- (37) Rajagopal, A; J Appl Phys 1998, V83, P2649 HCA
- (38) Rajagopal, A; J Appl Phys 1998, V84, P355 HCA
- (39) Redecker, M; Adv Mater 1999, V11, P241 HCA
- (40) Robinson, M; Adv Mater 2000, V12, P1701 HCA
- (41) Salbeck, J; Synth Met 1997, V91, P209 HCA
- (42) Sano, T; IEEE J Sel Top Quantum Electron 1998, V4, P34 HCA
- (43) Sano, T; Jpn J Appl Phys, Part 1 1995, V34, P3124 HCA
- (44) Schmidt, A; J Appl Phys 1995, V78, P5619 HCA
- (45) Schonherr, G; Philos Mag B 1981, V44, P47
- (46) Shi, J; Appl Phys Lett 1997, V70, P1665 HCA
- (47) Shirota, Y; J Mater Chem 2000, V10, P1 HCA
- (48) Tang, C; Appl Phys Lett 1987, V51, P913 HCA
- (49) Tang, C; J Appl Phys 1989, V65, P3610 HCA
- (50) Tokuhisa, H; Appl Phys Lett 1995, V66, P3433 HCA
- (51) Wakimoto, T; IEEE Trans Electron Devices 1997, V44, P1245 HCA
- (52) Wong, K; J Am Chem Soc 2002, V124, P11576 HCA
- (53) Wu, C; Appl Phys Lett 1997, V70, P1348 HCA
- (54) Wu, C; Appl Phys Lett 2002, V81, P577 HCA
- (55) Wu, C; J Am Chem Soc (in press)
- (56) Zhang, L; Chem Commun (Cambridge) 2002, V2002, P2336

IT 492436-15-4

(hole-transport properties of a furan-containing  
oligoaryl)

RN 492436-15-4 HCA

CN Furan, 2,2'-[1,1'-biphenyl]-4,4'-diylbis[3,5-diphenyl- (9CI) (CA  
INDEX NAME)



L23 ANSWER 4 OF 10 HCA COPYRIGHT 2004 ACS on STN  
 AN 138:144643 HCA  
 ED Entered STN: 27 Feb 2003  
 TI Non-amine-based furan-containing oligoaryls as efficient  
**hole transporting** materials  
 AU Zhang, Ling-Zhi; Chen, Chieh-Wei; Lee, Chin-Fa; Wu, Chung-Chih; Luh,  
 Tien-Yau  
 CS Department of Chemistry, National Taiwan University, Taipei, 106,  
 Taiwan  
 SO Chemical Communications (Cambridge, United Kingdom) (2002), (20),  
 2336-2337  
 CODEN: CHCOFS; ISSN: 1359-7345  
 PB Royal Society of Chemistry  
 DT Journal  
 LA English  
 CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related  
 Properties)  
 AB A new class of highly stable furan-based **hole**  
**transporting** oligomeric materials, synthesized from the  
 corresponding propargylic dithioacetals, serve as efficient  
**hole transporting** materials in  
**electroluminescent** devices. The performance of the devices  
 using these furan materials is comparable with or somewhat better  
 than those employing the conventional triarylamines (e.g.  
 $\alpha$ -NPD).  
 ST furan oligoaryl **hole transport** material  
**electroluminescent** device  
 IT **Hole transport**  
 (materials; non-amine-based furan-containing oligoaryls as  
 efficient  
**hole transporting** materials)  
 IT **Electroluminescent** devices  
 (non-amine-based furan-containing oligoaryls as efficient  
**hole transporting** materials)  
 IT 19205-19-7, N,N'-Dimethylquinacridone 123847-85-8,  $\alpha$ -NPD  
 282096-59-7 492436-14-3 492436-15-4  
 (non-amine-based furan-containing oligoaryls as efficient  
**hole transporting** materials)

RE.CNT 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD  
RE

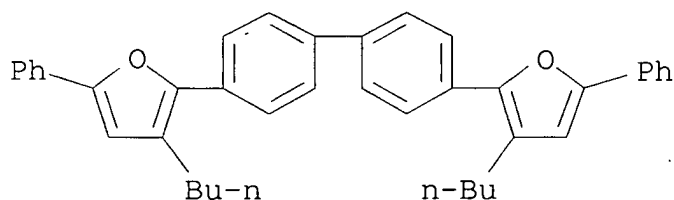
- (1) Adachi, C; Appl Phys Lett 1990, V56, P799 HCA
- (2) Anon; Electronic Materials: The Oligomer Approach 1998
- (3) Baldo, M; Nature 1998, V395, P151 HCA
- (4) Chen, C; Appl Phys Lett 2001, V79, P3711 HCA
- (5) Dufresne, G; Macromolecules 2000, V33, P8252 HCA
- (6) Elschner, A; Synth Met 2000, V111-112, P139 HCA
- (7) Gandini, A; Prog Polym Sci 1997, V22, P1203 HCA
- (8) Groenendaal, L; Adv Mater 2000, V12, P481 HCA
- (9) Heil, H; J Appl Phys 2001, V90, P5357 HCA
- (10) Hucke, A; J Org Chem 1998, V63, P7413 HCA
- (11) Kido, J; Appl Phys Lett 1998, V73, P2721 HCA
- (12) Ko, C; Appl Phys Lett 2001, V79, P4234 HCA
- (13) Lee, C; J Am Chem Soc 2000, V122, P4992 HCA
- (14) Liu, Y; Angew Chem, Int Ed 2002, V41, P182 HCA
- (15) Mitschke, U; Chem Eur J 1998, V4, P2211 HCA
- (16) Niziurski-Mann, R; Adv Mater 1993, V5, P547 HCA
- (17) Niziurski-Mann, R; J Am Chem Soc 1993, V115, P887 HCA
- (18) O'Brien, D; Adv Mater 1998, V10, P1108 HCA
- (19) Politis, J; J Am Chem Soc 2001, V123, P2537 HCA
- (20) Saadeh, H; Macromolecules 1997, V30, P4608 HCA
- (21) Shi, J; Appl Phys Lett 1997, V70, P1665 HCA
- (22) Shirota, Y; J Mater Chem 2000, V10, P1 HCA
- (23) Tang, C; Appl Phys Lett 1987, V51, P913 HCA
- (24) Tour, J; Acc Chem Res 2000, V33, P791 HCA
- (25) VanSlyke, S; Appl Phys Lett 1996, V69, P2160 HCA
- (26) van Haare, J; Chem Mater 1995, V7, P1984 HCA
- (27) Wu, C; Appl Phys Lett 2001, V79, P3023 HCA
- (28) Yamaguchi, S; J Chem Soc, Dalton Trans 1998, P3693 HCA

IT 282096-59-7 492436-14-3 492436-15-4

(non-amine-based furan-containing oligoaryls as efficient  
hole transporting materials)

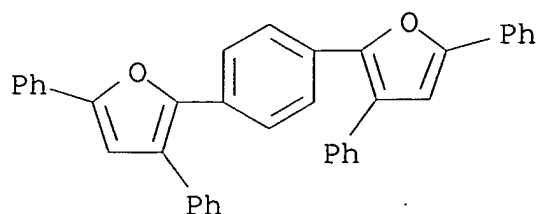
RN 282096-59-7 HCA

CN Furan, 2,2'-[1,1'-biphenyl]-4,4'-diylbis[3-butyl-5-phenyl- (9CI)  
(CA INDEX NAME)

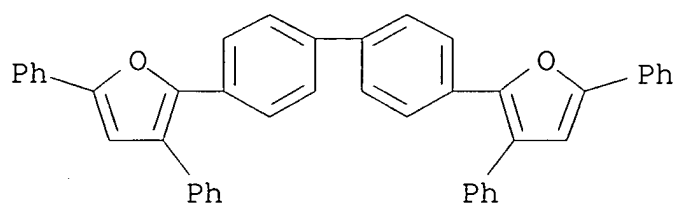


RN 492436-14-3 HCA

CN Furan, 2,2'-(1,4-phenylene)bis[3,5-diphenyl- (9CI) (CA INDEX NAME)



RN 492436-15-4 HCA  
 CN Furan, 2,2'-[1,1'-biphenyl]-4,4'-diylbis[3,5-diphenyl- (9CI) (CA  
 INDEX NAME)



L23 ANSWER 5 OF 10 HCA COPYRIGHT 2004 ACS on STN  
 AN 138:30905 HCA  
 ED Entered STN: 09 Jan 2003  
 TI Organic **electroluminescent** element and full color display  
 IN Oshiyama, Tomohiro; Yamada, Taketoshi; Kinoshita, Motoi; Kita,  
 Hiroshi  
 PA Konica Corporation, Japan  
 SO Eur. Pat. Appl., 57 pp.  
 CODEN: EPXXDW  
 DT Patent  
 LA English  
 IC ICM H01L051-20  
 ICS H01L027-00  
 CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related  
 Properties)  
 Section cross-reference(s): 74, 76

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1267428	A2	20021218	EP 2002-254090	20020612
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
US 2003091860	A1	20030515	US 2002-167120	200206

JP 2003064355                      A2            20030305            JP 2002-171356

10

200206

12

PRAI JP 2001-181543                      A            20010615

## CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
EP 1267428	ICM	H01L051-20
	ICS	H01L027-00
EP 1267428	ECLA	H01L027/32; H01L051/30H6; H01L051/50E
US 2003091860	ECLA	H01L027/00C20; H01L051/20D; H01L051/30H6
AB	Organic <b>electroluminescent</b> elements are described which comprise a light-emitting layer containing a fluorescent compound and a phosphorescent compound, the fluorescent compound having a nitrogen atom number to carbon atom number ratio in the mol. (N/C) of 0-0.05 and for which the maximum emission wavelength of light emitted according to <b>electroluminescence</b> of the element is longer than the maximum fluorescence wavelength of the fluorescent compound Displays employing the elements are also described.	
ST	org <b>electroluminescent</b> element display fluorescent phosphorescent mixt	
IT	<b>Electroluminescent</b> devices (displays; organic <b>electroluminescent</b> elements using mixed fluorescent and phosphorescent materials and displays employing them)	
IT	<b>Luminescent</b> screens ( <b>electroluminescent</b> ; organic <b>electroluminescent</b> elements using mixed fluorescent and phosphorescent materials and displays employing them)	
IT	<b>Electroluminescent</b> devices Fluorescent substances Phosphorescent substances (organic <b>electroluminescent</b> elements using mixed fluorescent and phosphorescent materials and displays employing them)	
IT	2085-33-8, Tris(8-hydroxyquinolinato)aluminum 4733-39-5, Bathocuproin 7429-90-5, Aluminum, uses 7440-04-2D, Osmium, compds. 7789-24-4, Lithium fluoride, uses 31248-39-2 37271-44-6 50926-11-9, ITO 51325-95-2, DCM2 65181-79-5 94928-86-6 123847-85-8, $\alpha$ -NPD 149005-33-4 337526-85-9 337526-98-4 343978-78-9 343978-79-0 400654-08-2 405171-49-5 405172-39-6 405173-85-5 453590-51-7 478262-73-6 478262-74-7 478262-75-8 478262-76-9 478262-77-0 478262-78-1 <b>478262-79-2</b> 478262-80-5 (organic <b>electroluminescent</b> elements using mixed	

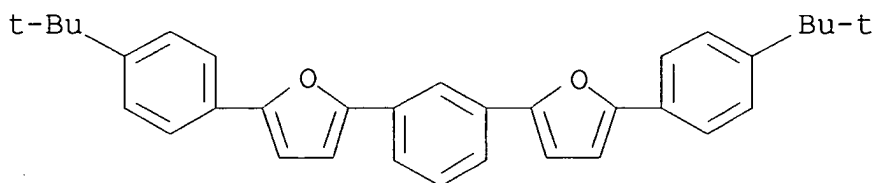
fluorescent and phosphorescent materials and displays employing them)

IT 478262-79-2

(organic **electroluminescent** elements using mixed fluorescent and phosphorescent materials and displays employing them)

RN 478262-79-2 HCA

CN Furan, 2,2'-(1,3-phenylene)bis[5-[4-(1,1-dimethylethyl)phenyl]-(9CI) (CA INDEX NAME)



L23 ANSWER 6 OF 10 HCA COPYRIGHT 2004 ACS on STN

AN 137:343728 HCA

ED Entered STN: 28 Nov 2002

TI Organic **electroluminescent** element, **luminescent** light source, lighting device, display device and method

IN Suzurizato, Yoshiyuki; Genta, Kazuo; Oshiyama, Tomohiro; Ueda, Noriko; Kita, Hiroshi

PA Konica Co., Japan

SO Jpn. Kokai Tokkyo Koho, 42 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM H05B033-14

ICS C09K011-06; G09F009-30; H05B033-02; H05B033-12; H05B033-22

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002324676	A2	20021108	JP 2001-129284	20010426

PRAI JP 2001-129284

20010426

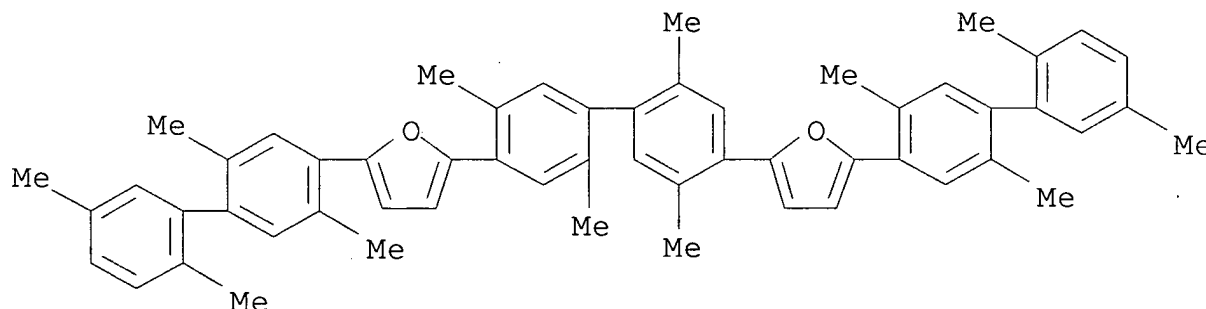
CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 2002324676	ICM	H05B033-14
	ICS	C09K011-06; G09F009-30; H05B033-02; H05B033-12;



H05B033-22

- AB The invention refers to a **electroluminescent** component comprising an organic layer with a **luminescent** layer and a adjacent layer, wherein the maximum **luminescent** wavelength of each of the two layers is  $\leq 415$  nm, for a low energy, flexible, high-**luminescence** device.
- ST **electroluminescent** device light source imaging device
- IT **Electroluminescent** devices  
Optical imaging devices  
(organic **electroluminescent** element, **luminescent** light source, lighting device, display device and method)
- IT 2085-33-8, Aluminum tris(8-hydroxyquinolino) 4733-39-5, 2,9-Dimethyl-4,7-Diphenyl 1,10-phenanthroline 12254-04-5, Aluminum barium magnesium oxide Al10BaMgO17 13778-49-9, Barium silicate Ba2SiO4 65181-79-5 124729-98-2, MTDATA 405171-87-1 405173-85-5 474304-09-1 474304-10-4 **474304-11-5** 474304-12-6, Germanium magnesium oxide (GeMg4O5.5)  
(organic **electroluminescent** element, **luminescent** light source, lighting device, display device and method)
- IT 16910-54-6, Europium 2+, uses 19768-33-3, Manganese 4+, uses  
(organic **electroluminescent** element, **luminescent** light source, lighting device, display device and method)
- IT **474304-11-5**  
(organic **electroluminescent** element, **luminescent** light source, lighting device, display device and method)
- RN 474304-11-5 HCA
- CN Furan, 2,2'-(2,2',5,5'-tetramethyl[1,1'-biphenyl]-4,4'-diyl)bis[5-(2,2',5,5'-tetramethyl[1,1'-biphenyl]-4-yl)- (9CI) (CA INDEX NAME)



- L23 ANSWER 7 OF 10 HCA COPYRIGHT 2004 ACS on STN
- AN 133:89397 HCA
- ED Entered STN: 04 Aug 2000
- TI One-Pot Synthesis of Substituted Furans and Pyrroles from Propargylic Dithioacetals. New Annulation Route to Highly **Photoluminescent** Oligoaryls
- AU Lee, Chin-Fa; Yang, Lian-Ming; Hwu, Tsyr-Yuan; Feng, An-Shuan;

- Tseng, Jui-Chang; Luh, Tien-Yau  
CS Department of Chemistry, National Taiwan University, Taipei, Taiwan  
SO Journal of the American Chemical Society (2000), 122(20), 4992-4993  
CODEN: JACSAT; ISSN: 0002-7863  
PB American Chemical Society  
DT Journal  
LA English  
CC 27-10 (Heterocyclic Compounds (One Hetero Atom))  
OS CASREACT 133:89397  
AB The title reaction is described. Thus, reaction of  
2-(1-phenylethynyl)-2-Ph dithiolane with Bu<sub>2</sub>CuLi in THF followed by  
treatment with benzaldehyde gave 60% trisubstituted  
2,3,5-triphenylfuran.  
ST one pot synthesis trisubstituted furan pyrrole; propargylic  
dithioacetal prepn annulation aldehyde imine; oligoaryl prepn  
**photoluminescence**  
IT Cyclization  
    **Luminescence**  
        (one-pot synthesis of substituted furans and pyrroles from  
        propargylic dithioacetals and new annulation route to highly  
        **photoluminescent** oligoaryls)  
IT 540-63-6, 1,2-Ethanedithiol  
    (cyclocondensation reaction with alkynyl ketone)  
IT 7338-94-5 18998-78-2 282096-34-8  
    (cyclocondensation reaction with ethanedithiol)  
IT 66-98-8, 4,4'-Bisformylbiphenyl 98-01-1, 2-Furfural, reactions  
100-52-7, Benzaldehyde, reactions 105-07-7, 4-Cyanobenzaldehyde  
123-11-5, 4-Methoxybenzaldehyde, reactions 123-38-6,  
Propionaldehyde, reactions 455-19-6, 4-  
(Trifluoromethyl)benzaldehyde 538-51-2 622-29-7 623-27-8,  
1,4-Benzenedicarboxaldehyde 1077-18-5 1571-08-0, Methyl  
4-formylbenzoate 1791-26-0, 4-Vinylbenzaldehyde 14371-10-9,  
trans-Cinnamaldehyde 30862-11-4 51004-05-8 54433-73-7  
    (one-pot synthesis of substituted furans and pyrroles from  
    propargylic dithioacetals and new annulation route to highly  
    **photoluminescent** oligoaryls)  
IT 183270-58-8P 282096-36-0P 282096-38-2P  
    (one-pot synthesis of substituted furans and pyrroles from  
    propargylic dithioacetals and new annulation route to highly  
    **photoluminescent** oligoaryls)  
IT 6163-58-2  
    (palladium catalyzed coupling reaction of iodobenzene with  
    vinylphenylfuran in presence of)  
IT 591-50-4, Iodobenzene  
    (palladium catalyzed coupling reaction with vinylphenylfuran  
    derivative)  
IT 282096-58-6P  
    (preparation and coupling reaction with iodobenzene)

IT 6307-20-6P 13901-77-4P 15345-47-8P 282096-45-1P 282096-46-2P  
282096-47-3P 282096-48-4P 282096-49-5P 282096-50-8P  
282096-51-9P 282096-52-0P 282096-53-1P 282096-54-2P  
282096-55-3P 282096-56-4P **282096-57-5P**  
**282096-59-7P 282096-60-0P 282096-61-1P**  
**282096-62-2P**

(preparation of)

IT 24406-16-4, Lithium dibutylcuprate  
(reaction with propargylic dithioacetals)

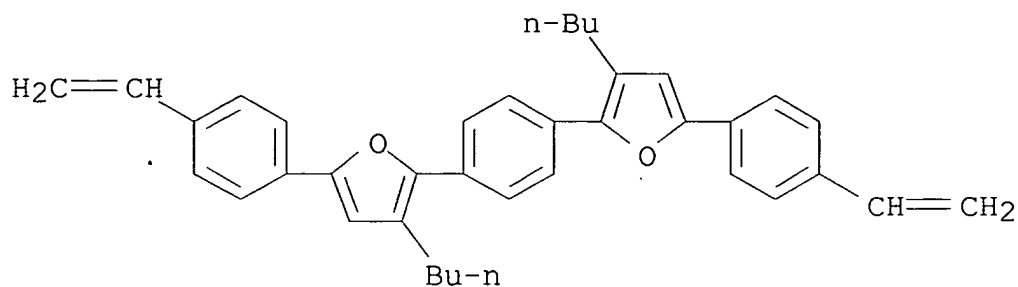
RE.CNT 36 THERE ARE 36 CITED REFERENCES AVAILABLE FOR THIS RECORD  
RE

- (1) Asano, T; Heterocycles 1977, V6, P317 HCA
- (2) Bean, G; Pyrroles 1990, P194
- (3) Crisp, G; Synth Commun 1989, V19, P307 HCA
- (4) Fanta, P; Synthesis 1974, P9 HCA
- (5) Gronowitz, S; Chem Scr 1984, V23, P120 HCA
- (6) Gronowitz, S; Chem Scr 1984, V24, P5 HCA
- (7) Hou, X; Tetrahedron 1998, V54, P1955 HCA
- (8) Iwasawa, N; J Am Chem Soc 1997, V119, P1486 HCA
- (9) Jackson, A; Comprehensive Organic Chemistry 1979, V4, P296
- (10) Kim, S; Synlett 1991, P869 HCA
- (11) Kooreman, H; Recl Trav Chim Pays-Bas 1967, V86, P37 HCA
- (12) Lipshutz, B; Chem Rev 1986, V86, P795 HCA
- (13) Lipshutz, B; Organometallics in Synthesis 1994, P298
- (14) Ly, N; Helv Chim Acta 1977, V60, P2085 HCA
- (15) Marshall; J Org Chem 1994, V59, P7169 HCA
- (16) Marshall, J; J Am Chem Soc 1992, V114, P1450 HCA
- (17) Marshall, J; J Org Chem 1990, V55, P3450 HCA
- (18) Marshall, J; J Org Chem 1991, V56, P1685 HCA
- (19) Marshall, J; J Org Chem 1991, V56, P4913 HCA
- (20) Marshall, J; J Org Chem 1994, V59, P6110 HCA
- (21) Marshall, J; J Org Chem 1995, V60, P796 HCA
- (22) Matsuzawa, S; Tetrahedron 1989, V45, P349 HCA
- (23) McDonald, F; J Am Chem Soc 1994, V116, P9363 HCA
- (24) Moriarty, R; Synth Commun 1985, V15, P789 HCA
- (25) Mullen, K; Electronic Materials: The Oligomer Approach 1998
- (26) Nakayama, J; Heterocycles 1987, V26, P2599 HCA
- (27) Obrecht, D; Helv Chim Acta 1989, V72, P447 HCA
- (28) Pelter, A; Synthesis 1987, P51 HCA
- (29) Pelter, A; Tetrahedron 1997, V53, P10357 HCA
- (30) Pelter, A; Tetrahedron Lett 1987, V28, P5213 HCA
- (31) Sham, H; J Chem Soc, Chem Commun 1991, P1134 HCA
- (32) Shu, H; J Am Chem Soc 1996, V118, P530 HCA
- (33) Tseng, H; J Org Chem 1997, V62, P4568 HCA
- (34) Tseng, H; J Org Chem 1999, V64, P8582 HCA
- (35) Wynberg, H; Synth Commun 1984, V14, P1 HCA
- (36) Yassar, A; Adv Mater 1994, V6, P660 HCA

IT **282096-58-6P**

(preparation and coupling reaction with iodobenzene)

RN 282096-58-6 HCA

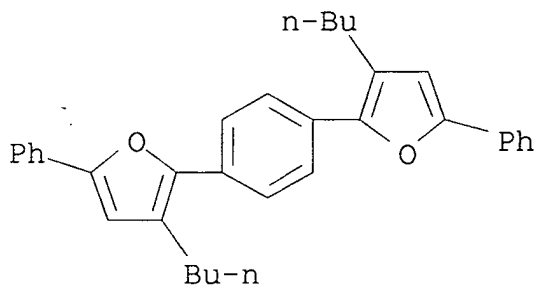
CN Furan, 2,2'-(1,4-phenylene)bis[3-butyl-5-(4-ethenylphenyl)- (9CI)  
(CA INDEX NAME)

IT 282096-57-5P 282096-59-7P 282096-60-0P

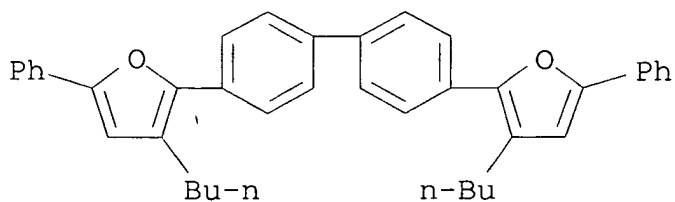
282096-62-2P

(preparation of)

RN 282096-57-5 HCA

CN Furan, 2,2'-(1,4-phenylene)bis[3-butyl-5-phenyl- (9CI) (CA INDEX  
NAME)

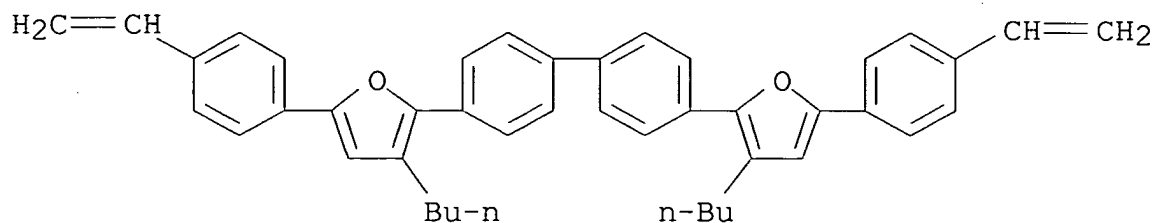
RN 282096-59-7 HCA

CN Furan, 2,2'-[1,1'-biphenyl]-4,4'-diylbis[3-butyl-5-phenyl- (9CI)  
(CA INDEX NAME)

RN 282096-60-0 HCA

CN Furan, 2,2'-[1,1'-biphenyl]-4,4'-diylbis[3-butyl-5-(4-ethenylphenyl)-

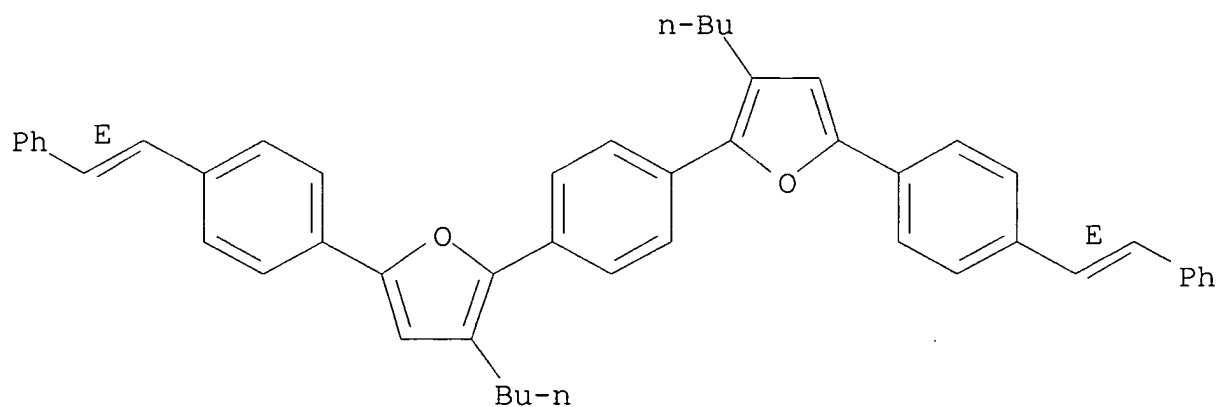
(9CI) (CA INDEX NAME)



RN 282096-62-2 HCA

CN Furan, 2,2'-(1,4-phenylene)bis[3-butyl-5-[4-[(1E)-2-phenylethenyl]phenyl]- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



L23 ANSWER 8 OF 10 HCA COPYRIGHT 2004 ACS on STN

AN 125:344860 HCA

ED Entered STN: 17 Dec 1996

TI Polymer grid triodes, light-emitting polymer grid triodes, their production, and circuits containing them

IN Yang, Yang; Heeger, Alan J.

PA Uniax Corporation, USA

SO U.S., 33 pp., Cont.-in-part of U.S. Ser. No. 218,321, abandoned.  
CODEN: USXXAM

DT Patent

LA English

IC ICM H01L035-24

ICS H01L051-00; H01L029-06

NCL 257040000

CC 76-3 (Electric Phenomena)

Section cross-reference(s): 38, 73

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5563424	A	19961008	US 1994-292817	19940810
	WO 9528742	A1	19951026	WO 1995-US3683	19950324
W:	AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LT, LU, LV, MD, MG, MN, MW, MX, NL, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM				
RW:	KE, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
AU	9521278	A1	19951110	AU 1995-21278	19950324
EP	755575	A1	19970129	EP 1995-914175	19950324
EP	755575	B1	20040512		
R:	DE, FR, GB, NL				
PRAI	US 1994-218321	B2	19940324		
	US 1994-227979	B2	19940415		
	US 1994-292817	A	19940810		
	WO 1995-US3683	W	19950324		

## CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 5563424	ICM	H01L035-24
	ICS	H01L051-00; H01L029-06
	NCL	257040000
US 5563424	ECLA	H01L051/30D2; H01L051/30D2B; H01L051/30D4; H01L051/30H; H01L051/30H4; H01L051/30H4B; H01L051/30H8;
WO 9528742	ECLA	H01L051/30D2; H01L051/30D2B; H01L051/30D4; H01L051/30H; H01L051/30H8; H01L051/50E
AB	Polymer grids comprising a body of elec. conducting organic polymer, which body has an open and porous network morphol. and defines an expanded surface area void-defining porous network, are disclosed. In most applications, active electronic material is located within at least a portion of the void spaces defined by the porous network. These grids are advantageously incorporated into polymer grid triodes and especially light-emitting polymer grid triodes.	
ST	polymer grid triode prodn; light emitting polymer grid triode prodn;	

circuit polymer grid triode

IT Polyesters, processes  
(blends with polyaniline; grid triodes and light-emitting grid triodes containing)

IT Polymers, processes  
(elec. conductive; grid triodes and light-emitting grid triodes containing)

IT Electric conductors, polymeric  
(grid triodes and light-emitting grid triodes containing)

IT Polyphenyls  
(grid triodes and light-emitting grid triodes containing)

IT **Electroluminescent** devices  
Semiconductor devices  
(polymer grid triodes)

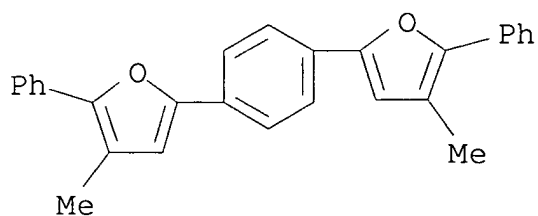
IT 3144-16-9, Camphorsulfonic acid 9011-14-7, PMMA  
(blends with polyaniline; grid triodes and light-emitting grid triodes containing)

IT 92-94-4, 1,1':4',1''-Terphenyl 120-12-7, Anthracene, processes  
1450-63-1, 1,1,4,4-Tetraphenyl-1,3-butadiene 1499-10-1,  
9,10-Diphenylanthracene 2519-10-0, Pentaphenylcyclopentadiene  
5690-24-4 7128-64-5 13280-61-0 15570-45-3 22330-48-9  
25067-59-8, Poly(vinyl carbazole) 25233-30-1, Polyaniline  
25233-34-5, Polythiophene 26009-24-5, Poly(1,4-phenylene-1,2-ethenediyl) 30604-81-0, Polypyrrole 89114-91-0 91175-18-7  
95458-93-8 96638-49-2, Polyphenylene vinylene 98660-79-8  
**126769-57-1**  
(grid triodes and light-emitting grid triodes containing)

IT **126769-57-1**  
(grid triodes and light-emitting grid triodes containing)

RN 126769-57-1 HCA

CN Furan, 2,2'-(1,4-phenylene)bis[4-methyl-5-phenyl- (9CI) (CA INDEX NAME)



L23 ANSWER 9 OF 10 HCA COPYRIGHT 2004 ACS on STN

AN 124:133079 HCA

ED Entered STN: 28 Feb 1996

TI Polymer grid triodes

IN Yang, Yang; Heeger, Alan J.

PA Uniax Corp., USA

SO PCT Int. Appl., 80 pp.

CODEN: PIXXD2

DT Patent

LA English

IC ICM H01L051-00

ICS H01J001-62

CC 76-3 (Electric Phenomena)

Section cross-reference(s): 38, 73

FAN.CNT 2

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9528742	A1	19951026	WO 1995-US3683	19950324
W: AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LT, LU, LV, MD, MG, MN, MW, MX, NL, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM RW: KE, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
US 5563424	A	19961008	US 1994-292817	19940810
AU 9521278	A1	19951110	AU 1995-21278	19950324
EP 755575	A1	19970129	EP 1995-914175	19950324
EP 755575	B1	20040512		
R: DE, FR, GB, NL				
PRAI US 1994-227979	A	19940415		
US 1994-292817	A	19940810		
US 1994-218321	B2	19940324		
WO 1995-US3683	W	19950324		

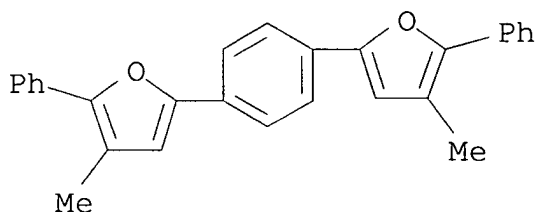
# CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 9528742	ICM	H01L051-00
	ICS	H01J001-62
WO 9528742	ECLA	H01L051/30D2; H01L051/30D2B; H01L051/30D4; H01L051/30H; H01L051/30H8; H01L051/50E
US 5563424	ECLA	H01L051/30D2; H01L051/30D2B; H01L051/30D4; H01L051/30H; H01L051/30H4; H01L051/30H4B; H01L051/30H8;
AB		Polymer grids comprising a body of elec. conducting organic polymer,



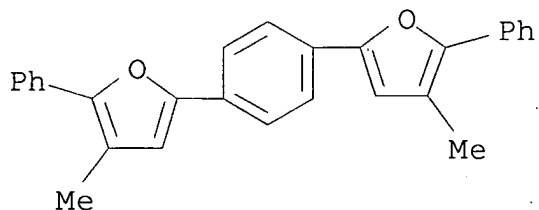
which body has an open and porous network morphol. and presents an expanded-surface-area void-defining porous network are disclosed. In most applications, active electronic material is located within at least a portion of the void spaces defined by the porous network. These grids are advantageously incorporated into polymer grid triodes and especially light-emitting polymer grid triodes.

- ST polymer grid triode; light emitting polymer grid triode  
 IT **Electroluminescent** devices  
     (having polymer grids)  
 IT Electric conductors, polymeric  
     (triodes having grids from)  
 IT Polymers, processes  
     (triodes having grids from)  
 IT Polyesters, processes  
     (triodes having grids from polyaniline and)  
 IT Electron tubes  
     (triodes, having polymer grids)  
 IT 92-94-4, 1,1':4',1''-Terphenyl 120-12-7, Anthracene, processes  
     1450-63-1 1499-10-1, 9,10-Diphenylanthracene 2519-10-0  
     5690-24-4 7128-64-5 13280-61-0 15570-45-3 22330-48-9  
     89114-91-0 91175-18-7 95458-93-8 98660-79-8  
     **126769-57-1**  
     (light-emitting triodes containing)  
 IT 138184-36-8, Poly(2-methoxy-5-(2'-ethylhexyloxy)-1,4-phenylenevinylene)  
     (light-emitting triodes having grids from)  
 IT 9033-83-4, Polyphenylene 25067-59-8, Poly(vinyl carbazole)  
     25233-30-1, Polyaniline 25233-34-5, Polythiophene 30604-81-0,  
     Polypyrrole 96638-49-2, Poly(phenylenevinylene)  
     (triodes having grids from)  
 IT **126769-57-1**  
     (light-emitting triodes containing)  
 RN 126769-57-1 HCA  
 CN Furan, 2,2'-(1,4-phenylene)bis[4-methyl-5-phenyl- (9CI) (CA INDEX NAME)



L23 ANSWER 10 OF 10 HCA COPYRIGHT 2004 ACS on STN  
 AN 112:188574 HCA  
 ED Entered STN: 12 May 1990

TI Blue light-emitting organic **electroluminescent** devices  
 AU Adachi, Chihaya; Tsutsui, Tetsuo; Saito, Shogo  
 CS Grad. Sch. Eng. Sci., Kyushu Univ., Kasuga, 816, Japan  
 SO Applied Physics Letters (1990), 56(9), 799-801  
 CODEN: APPLAB; ISSN: 0003-6951  
 DT Journal  
 LA English  
 CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)  
 AB Organic **electroluminescent** (EL) devices with multilayered thin-film structures which emitted bright blue light were constructed. Two empirical guides for the selection of blue-emitting materials were established. The keys to obtain the EL cells with high EL efficiency were excellent film-forming capability of an emitter layer and the appropriate combinations of emitter and carrier transport materials for avoiding the formation of exciplexes. In one of the organic **electroluminescent** devices, blue emission with a luminance of 700 cd/m<sup>2</sup> was achieved at a c.d. of 100 mA/cm<sup>2</sup> and a d.c. drive voltage of 10 V.  
 ST blue light emitting org **electroluminescent** device  
 IT **Electroluminescent** devices  
     (blue light-emitting organic)  
 IT 92-94-4, 1,1':4',1''-Terphenyl 120-12-7, Anthracene, uses and miscellaneous 1450-63-1 1499-10-1 2519-10-0 5690-24-4 7128-64-5 13280-61-0 15570-45-3 22330-48-9 65181-78-4 89114-91-0 91175-18-7 95458-93-8 98660-79-8 126769-57-1  
     (**electroluminescent** device blue-emitting material)  
 IT 15082-28-7  
     (**electroluminescent** device carrier transport material)  
 IT 126769-57-1  
     (**electroluminescent** device blue-emitting material)  
 RN 126769-57-1 HCA  
 CN Furan, 2,2'-(1,4-phenylene)bis[4-methyl-5-phenyl- (9CI) (CA INDEX NAME)



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